



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,301	01/02/2004	David M. Giorgi	00970.0011-US-U1	8801
22865	7590	05/19/2006	EXAMINER	
ALTERA LAW GROUP, LLC 6500 CITY WEST PARKWAY SUITE 100 MINNEAPOLIS, MN 55344-7704			VAN ROY, TOD THOMAS	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/751,301

Applicant(s)

GIORGI ET AL.

Examiner

Tod T. Van Roy

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,8-12,14-17 and 19 is/are rejected.
- 7) ☒ Claim(s) 2-7,13,18,20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Amendment***

The examiner acknowledges the amending of claims 16-17.

### ***Response to Arguments***

Applicant's arguments, see Remarks, filed 03/20/2006, with respect to claims 1, 10-12, 14-17, and 19 have been fully considered and are persuasive. The rejection of the claims has been withdrawn.

The previous objections of claims 8-9 are withdrawn, and are hereby rejected, due to newly discovered prior art.

### ***Claim Objections***

Claim 16 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 16 refers to a flat top current pulse, which is a limitation found in claim 14.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2828

Claims 1, 9-12, 14-17, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Molitor et al. (US 5089727).

With respect to claims 1 and 9-12, Molitor discloses a pulsed laser driver comprising: a slow voltage discharge stage comprising a first energy storage element (fig.2 #44, .01 uF) having first energy storage capacity at a first voltage magnitude (+25V); a fast voltage stage comprising a second energy storage element (fig.2 #78, 2200 pF) having a second energy storage capacity at a second voltage magnitude (+200V), the second energy storage capacity being less than the first energy storage capacity, and the second voltage magnitude being greater than the first voltage magnitude, a switch controlled current path (fig.2 #62, functions as a switch), and a laser diode (fig.2 #86) coupled to the first energy storage element and to the second energy storage element through the switch controlled circuit path.

With respect to claims 14 and 16-17, Molitor discloses a method for driving a laser diode with a current pulse comprising: establishing a first voltage magnitude in a first energy storage element having a first energy storage capacity (+25V into #44), establishing a second voltage magnitude in a second energy storage element having a second energy storage capacity (+200V into #78), the second energy storage capacity being smaller than the first energy storage capacity, and the second voltage magnitude being greater than the first voltage magnitude, and discharging the first energy storage element and the second energy storage element into a laser diode (through #64 to diode #86), the discharge of the first energy storage element essentially furnishing a flattop current pulse to the laser diode (fig.3 #102, output light pulse directly related to

Art Unit: 2828

input current pulse, essentially flat, except at the beginning of the pulse), and the discharge of the second energy storage element essentially establishing a risetime characteristic of the current pulse (peaking characteristic at beginning of pulse).

Claim 15 is rejected for the same reasons as claim 14, and Molitor additionally discloses that no very high current pulse (could be any value) is applied to the device (fig.3 #102).

Claim 19 is rejected for the same reasons given in the rejections to claims 1 and 14 above.

Claims 1 and 8-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Clark et al. (US 4400812).

With respect to claims 1 and 9-12, Clark discloses a pulsed laser driver comprising: a slow voltage discharge stage comprising a first energy storage element (fig.1 #21, 1.0 uF) having first energy storage capacity at a first voltage magnitude (3.5V, col.3 lines 35-37), a fast voltage stage comprising a second energy storage element (fig.1 #30, 0.01 uF) having a second energy storage capacity at a second voltage magnitude (+15V), the second energy storage capacity being less than the first energy storage capacity, and the second voltage magnitude being greater than the first voltage magnitude, a switch controlled current path (fig.1 #38, functions as a switch), and a laser diode (fig.2 #86) coupled to the first energy storage element and to the second energy storage element through the switch controlled circuit path.

Art Unit: 2828

With respect to claim 8, Clark discloses the switch controlled current path to comprise a first switch having a floating terminal (fig.1 #38) and a second switch having a grounded terminal (fig.1 #39), the floating terminal of the first switch being coupled to a first terminal of the laser diode, and the grounded terminal of the second switch being coupled to a second terminal of the laser diode (coupled through first switch #38).

***Allowable Subject Matter***

Claims 2-7, 13, 18, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 2 and 5 are believed to be allowable as the claimed circuit organizations, namely the second terminal of the laser diode being coupled to the second terminals of the capacitors, was not found to be taught in the prior art, or an obvious combination of the prior art.

Claims 3-4 and 6-7 are allowable as they depend from claims 2 and 5.

Claims 13, 18, and 20 are believed to be allowable as the claimed circuit layouts, including the additional fast voltage discharge stage and element value relations to the original two discharge stages, was not found to be taught in the prior art, or to be an obvious combination of the prior art.

Art Unit: 2828

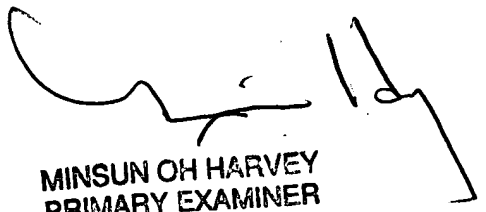
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tod T. Van Roy whose telephone number is (571)272-8447. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on (571)272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVR



MINSUN OH HARVEY  
PRIMARY EXAMINER